

## ABSTRACT

Devices, systems and methods for treating disorders characterized by low cardiac output. The devices, systems and methods use intra-aortic balloon counterpulsation in combination with hypothermia of all or a portion of a human or veterinary patient's body to improve coronary perfusion and cardiac output. To effect the hypothermia, a heat exchange catheter may be positioned in the a patient's vasculature separately from the intra-aortic balloon counterpulsation catheter. Alternatively, a combination Intra-aortic balloon counterpulsation/heat exchange catheter may be utilized. Such combination catheter comprises a) a catheter sized for insertion into the aorta, b) a counterpulsation balloon and c) a heat exchanger. A drive/control system receives temperature and electrocardiograph signals and drives the inflation/deflation of the counterpulsation balloon as well as the heating/cooling of the heat exchanger.